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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| 09/517,256 | 03/02/00 | OSTOVIC | 800448 |

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| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
| 2834 | |

DATE MAILED: 05/15/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/517,256

Applicant(s)

OSTOVIC, VLADO

Examiner

Joseph Waks

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed June 5, 2000 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.
3. The information disclosure statement filed June 5, 2000 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.
4. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the two iron segments

with an additional pole piece per pole must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In line 1, "The present invention" is a phrase which can be implied.

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: two iron core segments with additional pole piece per pole.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. **Claims 5-8** are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The recited two iron core segments with additional pole piece per pole is not shown in the drawings and not described in the specification.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. **Claims 1-25** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 2 and 3 "per pole" is indefinite since it is not clear pole of what is recited in the claim.

In claim 5, line 3 "per pole", and line 2, additional piece pole per pole are indefinite since it is not clear pole and piece of what pole are recited in the claim.

In claim 9, lines 2 and 3 "per pole" is indefinite since it is not clear pole of what is recited in the claim, line 4, "an optional squirrel cage" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase "optional" are part of the claimed invention or not, and the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

13. **Claims 1-3** are rejected under 35 U.S.C. 102(b) as being anticipated by **Hershberger (US 4,327,302)**.

Hershberger discloses in Figures 4-11 invention as claimed: a rotor comprising having a plurality of poles having an iron core segment 53 and two rectangular permanent magnets 89 and 91 per each pole.

14. **Claims 1-8, 17-19, 21, 22, 24, and 25** are rejected under 35 U.S.C. 102(b) as being anticipated by **Reiter Jr. et al. (US 5,191,256)**.

Reiter Jr. et al. disclose in Figures 7-10 invention as claimed: a rotor having a plurality of poles and comprising an iron core segment 18 and a plurality of tangentially magnetized, rectangular permanent magnets 17w, 17x and 17y per each pole.

Re claims 5, **Bertram et al.** disclose in Figure 3 a rotor having two iron core segments 40 and 18 with an additional pole member 18 and a permanent magnet 17 per rotor pole, in Figure 10 an additional pole member 17y and a permanent magnet 17z in shape of a trapezoid, and in Figure 7 a tangentially magnetized magnet 17.

15. **Claims 17- 25** are rejected under 35 U.S.C. 102(e) as being anticipated by **Zajc et al. (US 5,744,888)**.

16. **Zajc et al.** disclose in Figures 1, 6, and 7-9 invention as claimed: a rotor having a plurality of poles and comprising an iron core segment 9 and a plurality of tangentially magnetized, rectangular permanent magnets 1 per each pole, and one or more separately excited coils per pole.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. **Claims 9-11, 13-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broadway et al. (US 3,686,553)** in view of **Li et al. (US 5,973,431)**.

Broadway et al. disclose in Figures 7-13 a synchronous machine with a rotor comprising one or more iron core segments per pole, and a stator with a pole amplitude modulating winding. However, **Broadway et al.** fail to disclose one or permanent magnets per pole.

Li et al. disclose a rotor for a synchronous machine having one iron core segment 14a and one permanent magnet 14n or 14s per pole for the purpose of providing two sources of torque, thus increasing the torque output per phase without significant increase of the machine cost.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the machine as taught by **Broadway et al.** and to provide the rotor having one iron core segment and one permanent magnet per pole as taught by **Li et al.** for the purpose of providing two sources of torque, thus increasing the torque output per phase without significant increase of the machine cost.

Re claim 15, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to design the combined with trapezoidally shaped magnets for the purpose of accurately follow the rotor shape since applicant has not disclosed that the trapezoidally shaped magnets solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with

rectangular or arc segment shaped magnets. In re Span-Deck Inc. v. Fab-Con Inc., (CA 8, 1982) 215 USPQ 835.

19. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broadway et al. (US 3,686,553)** in view of **Li et al. (US 5,973,431)** as applied to claim 9 above and further in view of **Zajc et al. (US 5,744,888)**.

The combined synchronous machine disclose all elements essentially as claimed. However, it fails to disclose the permanent magnets being predominantly tangentially magnetized.

Zajc et al. disclose in Figure 1 a rotor 20 for a synchronous machine having one iron core segment 9 and one permanent magnet 1 per pole wherein the magnets are tangentially magnetized for the purpose of providing a multi-pole and a multiphase machine which can be commutated with a small amount of material loss and having low inertia, thus improving the machine performance.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined machine and to provide the rotor having one iron core segment and one permanent magnet per pole wherein the magnets are tangentially magnetized as taught by **Zajc et al.** for the purpose of providing a multi-pole and a multiphase machine which can be commutated with a small amount of material loss and having low inertia, thus improving the machine performance.

Double Patenting

20. **Claims 13, 14 and 16** are objected to under 37 CFR 1.75 as being a substantial duplicate of claim 9, 10, and 12. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in

wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Prior Art


21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Waks whose telephone number is (703) 308-1676. The examiner can normally be reached on Monday through Thursday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.


JOSEPH WAKS
PRIMARY PATENT EXAMINER
TC-2800

JW
May 10, 2001